



WISHH: Soy Extrusion technologies for development programs

March 12, 2009

Who is Insta-Pro?



Global Experts on Dry Extrusion since 1969

Promoters of systems for commercial and humanitarian post-harvest agricultural applications.

Global business - currently in over 100 countries

Strategic Initiatives

Food - Welfare Relief

Feed - Continue oilseed and by-product processing.
Expand Pet and Aquatic technology

Fuel - Focus on oil extraction of high oil bearing seeds

Mission Statement



To be a value-added, results-oriented, customer focused supplier of processing solutions to the food, feed and biofuel industries.

Insta-Pro Dry Extrusion

History

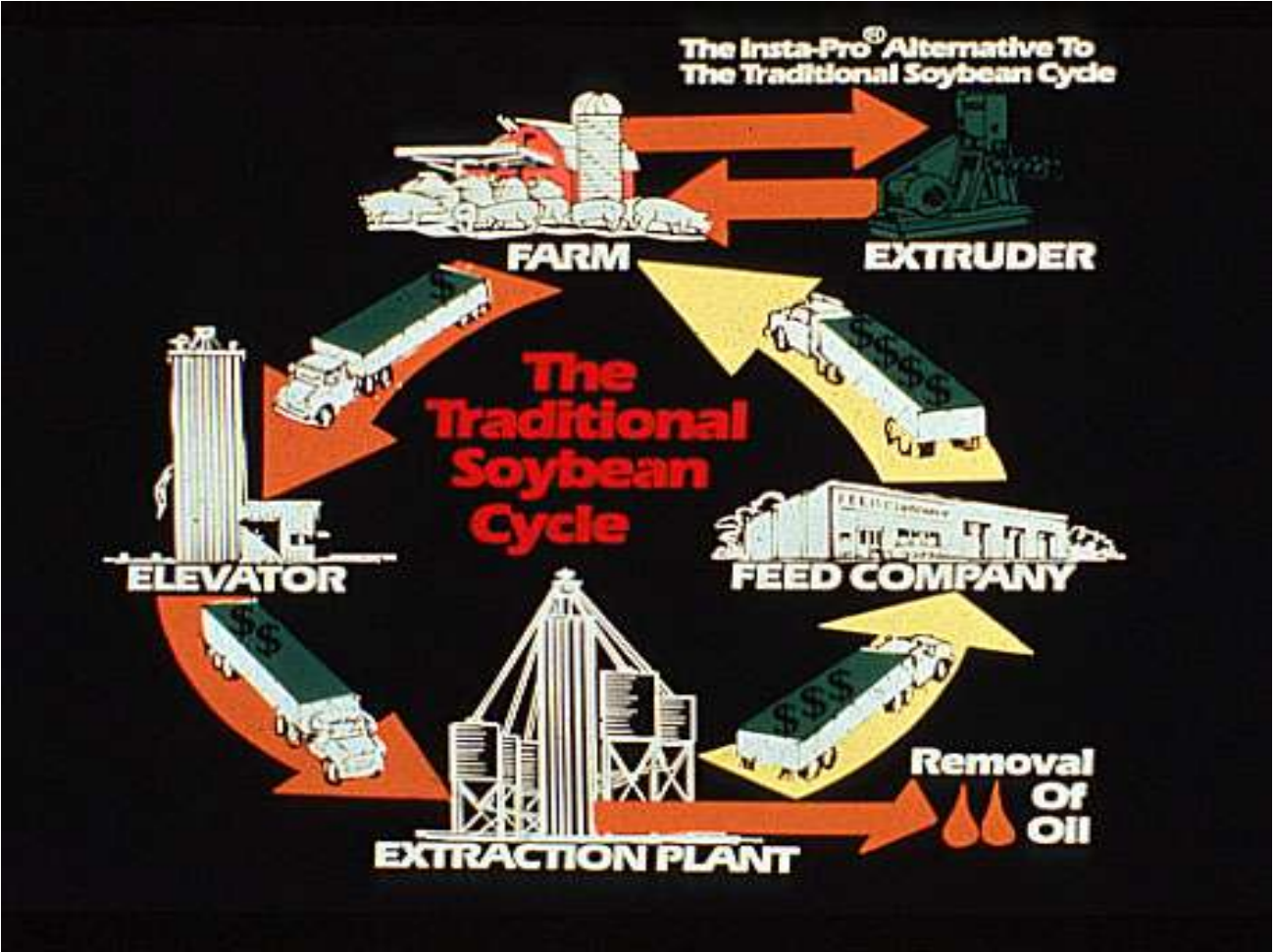


Developed in early 1960's for farmers to be self-sustainable by the process of on-the-farm cooking of soybeans and cereal feed.

This process provided farmers with the opportunity to obtain full use and value of harvested grains by feeding and eating their home grown ingredients.

Allowed farmers to sell feed and feed additives for additional income to local farmers and feed mills and oil extraction plants.

Insta-Pro Dry Extrusion



Dry Extrusion

Features



Deactivation of Anti-Nutritional factors present in oilseeds.

i.e Trypsin & Chymotrypsin inhibitors, Phytohaemagglutinins (lectins), Urease, Allergenic factors, Lipase, Lipoxygenase

Uses solely friction as heat source to cook sterilize, and dehydrate products

Creates pressure to rupture cell bodies.

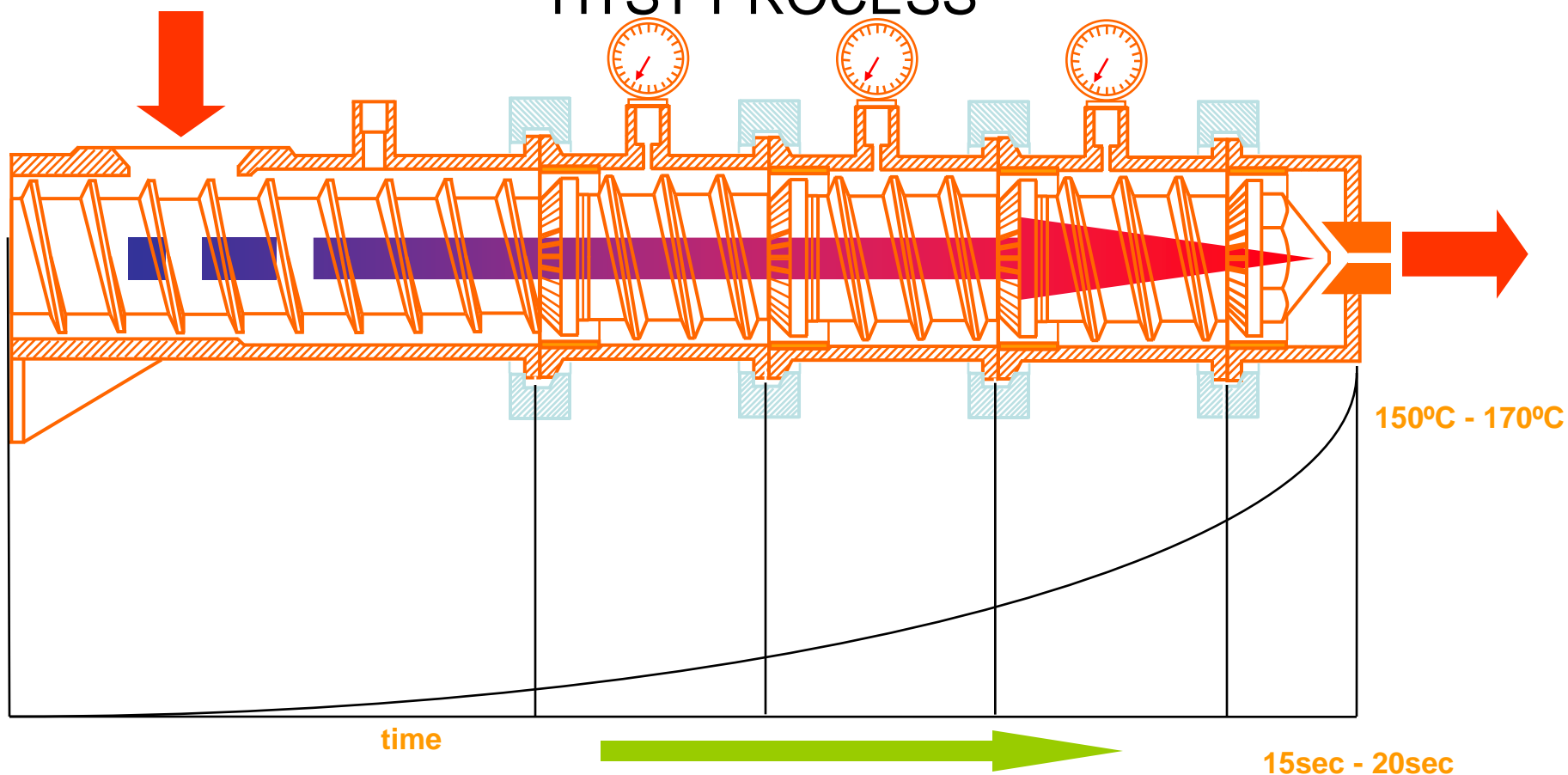
Fully gelatinizes starches.

Extrusion

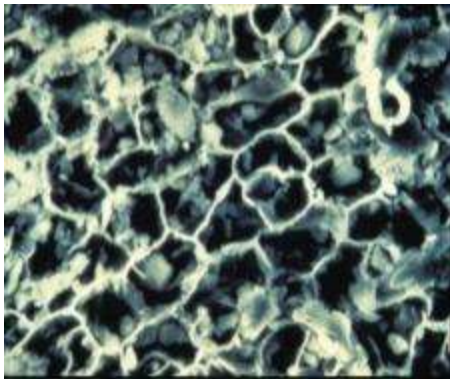
Principles of High Shear Extrusion



HTST PROCESS



Cell Rupture



Raw Soybean



Extrusion



Extruded Soy

Insta-Pro

Benefits

Low Capital Investment

Simple, easy to use Technology

Flexible scales of operation

Long lasting, fully customizable equipment

Proven Systems

Third-Party relationships



Insta-Pro

Benefits



Chemical-free environmentally safe processes

Highly quality, palatable and digestible end products

Nutritional expertise and consultation

Superior after sale support

Relationships with World Food Programme and other agencies in Food Relief Efforts

Responsive to customers' needs

Where we play

Our focus

Food

Food relief focused

World Food Program/
World Food Prize

Unimix, TSP, CSB (Corn/Soy
Blend)



Feed

Soy

Canola/Rapeseed

Aquatic/Pet Food



Bio-diesel

Canola/Rapeseed

Alternate feed stocks



Food







We are committed to providing feasible solutions to aid in the production of safe, quality food ingredients to bettering the lives of those in need of food and nutrition.



Our Role

Food



Product produced	Application
 <p data-bbox="454 522 929 625">Low fat soy flours and meals</p>	<p data-bbox="1033 522 1709 625">Breads, baked goods, soy milk, feed protein</p>
 <p data-bbox="454 751 923 796">Textured soy proteins</p>	<p data-bbox="1033 722 1522 825">Meat extender or meat replacement</p>
 <p data-bbox="454 922 923 1025">Expanded grains Protein/Carbohydrate blend</p>	<p data-bbox="1033 951 1734 996">Cereals and ready-to-eat snacks</p>
 <p data-bbox="454 1150 935 1196">Natural Vegetable Oils</p>	<p data-bbox="1033 1122 1671 1225">Cooking, frying, feed additive, and fuel</p>

Our Role

Food (Case Studies)

Health Care Food Manufacturers

Belete Beyene

Biyinzika Enterprises, Ltd.

Samual Mukasa



Our Role



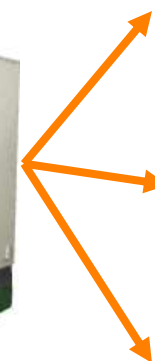
Locally grown grains or oilseeds



Government donated grains or oilseeds



Village and Community based Extrusion Food and Feed Factories (Varying sizes)



FOOD



FEED



FUEL

Our Products

Extruders (medium to large scale)



2000 series



2000 Double Barrel



Model 2500

9000 series



Model 9600

CAPACITIES

Model	Output
2000 Double Barrel	4,400 - 5,200 lbs./hr
Model 2500	2,200 - 2,600 lbs./hr
Model 9600	6,000 - 8,000 lbs./hr

Our Products

Extruders (small scale)



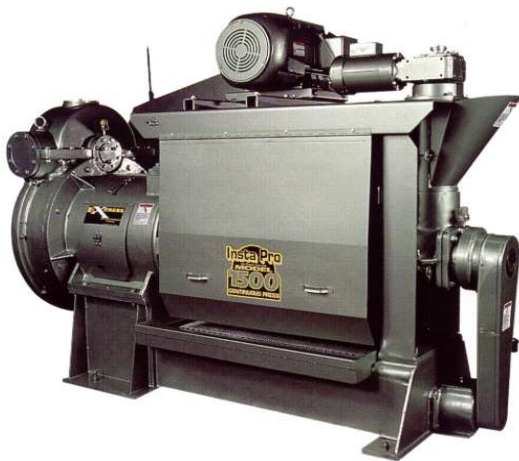
600 series



Model	CAPACITY Output
Model 600	600 - 800 lbs./hr

Our Products

Oil Presses (large scale)



Model 2000



Model 5005

CAPACITIES

Model	Output
Model 2000 Press	2,000 - 4,000 lbs./hr
Model 5005 Press	4,000 - 4,400 lbs./hr

Our Products

Oil Presses (small scale)



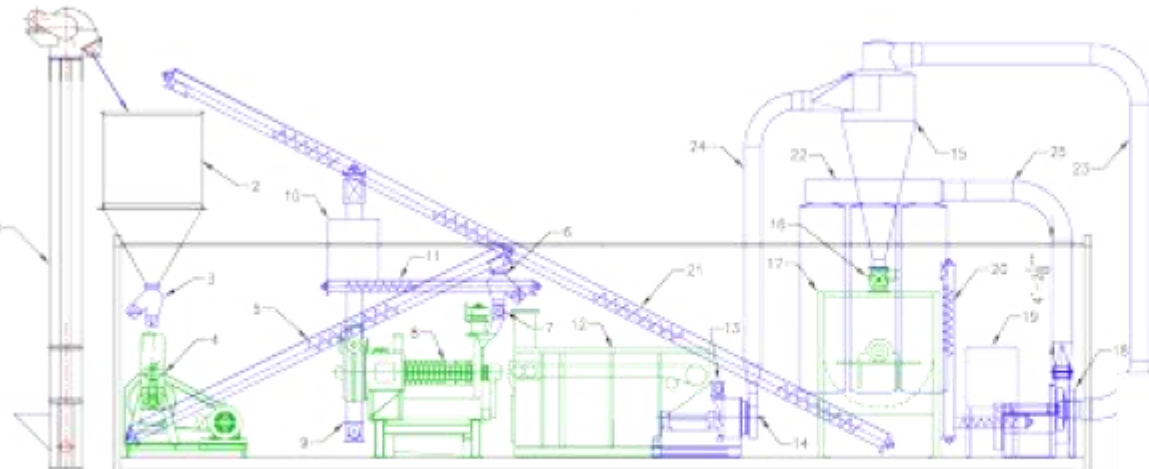
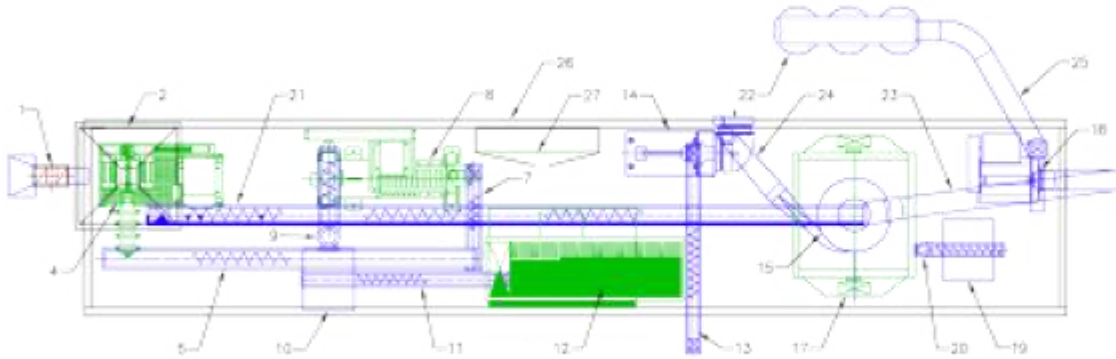
Model 1000

CAPACITY

Model	Output
Model 1000 Press	750 - 1,000 lbs./hr

Our Products

Containerized System



Our Products

Containerized System (costs)

**EQUIPMENT LISTING FOR TYPICAL CONTAINERIZED UNIT 8 TPD
(ITEM NUMBERS REFER TO DRAWING NO. 000731)**

ITEM NO:	DESCRIPTION
1	C3-175 X 18FT BUCKET ELEVATOR
2	4FT X 4FT X 4FT SURGE BIN
3	6" OFFSET VALVE
4	INSTA-PRO MODEL 600JR EXTRUDER
4A	INSTA-PRO MODEL 600JR SPARE PARTS PACKAGE
5	6" X 17FT VENTED SCREW CONVEYOR STL. STEEL
6	6" OFFSET VALVE
7	4" X 5FT SCREW CONVEYOR
8	INSTA-PRO MODEL 1000 OIL PRESS
8A	INSTA-PRO MODEL 1000 SPARE PARTS PACKAGE
9	6" VERTICAL SCREW W/HORIZONTAL FEED
10	HAMMER MILL
11	4" X 8FT SCREW CONVEYOR
12	DRYER/COOLER
13	4" SCREW CONVEYOR
14	PULVERIZER
15	HI-EFF. CYCLONE
16	ROTARY VALVE
17	60 CU.FT. STL. STEEL MIXER
17A	LOAD CELLS
18	FAN
19	HAMMER MILL
20	4" VERTICAL SCREW CONVEYOR W/HORIZ. FEED
21	6" SCREW CONVEYOR STL. STEEL
22	150 SQ. FT. AFTER FILTER
23	10" DUCTWORK FROM CYCLONE TO FAN
24	8" DUCTWORK FROM PULV. TO CYCLONE
25	10" DUCTWORK FROM FAN TO AFTER-FILTER
26	40FT CONTAINER W/MODIFICATION

Total Power required: 163hp / 122kW

\$373,007



Our Products

Value

Ingredient	Inputs value MT	Outputs value MT
Soybean 100%	\$375	-
Soy meal 87.5%	-	\$370
Crude soy oil 12.5%	-	\$75
TTL		\$455



Research Partners



Iowa State University
University of Illinois
Texas A & M University
University of North Carolina
Texas Tech University
USDA ARS Lubbock
Kansas State University
University of Missouri
University of Nebraska
Oceanic Institute
Ping Tung University
Iowa State-BECON



Texas A&M High Shear Extruder with Preconditioner

Extrusion Systems

Features and Benefits



Incorporation of extruder(s) into a region or community creates:

Safe, quality nutrition necessary for life

Jobs for those growing crops, operating equipment, and distribution of products

Local commerce between growers, producers and buyers

Sustainability

Soy Extrusion Systems



Key takeaways

Affordable and easy to implement technology.

Allow for producing multiple unique soy products from raw soybean or other local ingredients for food or feed.

Allow for adding new revenue streams.



INSTA-PRO
INTERNATIONAL

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